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ABSTRACT

This follow-up study tracked the employment outcomes, job retention, and average wages of 576 individuals in Washington State with mental health disabilities or developmental disabilities 2 years after they had received supported employment services and entered into competitive employment. The study matched client records from the Division of Vocational Rehabilitation with Employment Security earnings records. The study was able to track the employment outcomes of 86 percent of the individuals. It found that for those with developmental disabilities, about 70 percent were still employed after the first and second years and for those with disabilities related to mental health, about 70 percent were employed at the end of the first year and 50 percent at the end of the second year. Patterns of retention in employment were quite similar, regardless of gender, age, or race/ethnicity. Wages averaged between $400 and $500 per month the first year, increasing to about $570 during the second year. These wages were obtained by working, on average, about half time, at $5 to $6 per hour. Among those with mental health disabilities, the clients who received additional services as a result of a 1993 legislative proviso had higher wages than others. Tables and graphs detail the findings, and an appendix explains methodological issues and the automated monitoring process. (DB)

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Employment Outcomes for Supported Employment Clients in the Division of Vocational Rehabilitation

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Employment Outcomes for Supported Employment Clients in the Division of Vocational Rehabilitation

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June 1996

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Gary Bodeutsch, Tim Norris, and Peter Sieben in Labor Market and Economic Analysis at the Employment Security Department provided 8 years of Employers Reports of Quarterly Earnings for matching purposes.

The following served on our Advisory Committee, which was a valuable source of guidance:

Jeanne Munro, Edna Fund, and Carl Rennewitz Division of Vocational Rehabilitation,
Dr. Paul Peterson, The Washington Institute for Mental Illness Research and Training,
Dr. John Whitbeck and Dr. Hasan Malik, Mental Health Division of DSHS,
Gregg Anderson, Division of Developmental Disabilities of DSHS,
John Riess, King County RSN,
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Tim Brown, Chief, Office of Research and Data Analysis, DSHS.

Their thoughtful insights were welcome and kept us focused as we learned about other efforts in tracking vocational outcomes and many details of Supported Employment Programs, as well as brainstorming applications and implications of the results for long-term planning.

For preliminary efforts in matching DVR data with divisional management information systems data, thanks go to Lisa Weber of the Office of Research and Data Analysis, who generated the early findings for DDD clients, and Sabine Whipple of the Mental Health Division, who has begun similar efforts using MHD data.

John Miller in the Office of Research and Data Analysis, whose SAS programming expertise, historical knowledge, vision, and humor made the automated reporting system possible.

Jane Dillon-Wingfield, who, despite a myriad of obstacles including office computer problems, was able to generate professional and meaningful preliminary reports for Advisory Group meetings. Jane was also responsible for the layout and presentation of this final report.

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Executive Summary

A Follow-up Study of Vocational Rehabilitation Supported Employment Clients
Washington State Department of Social and Health Service

The purpose of this follow-up study is to systematically track employment outcomes, job retention and average monthly wages for up to two years for individuals who received supported employment services and entered competitive employment. The **supported employment** program is a way to structure a job and provide support services so that individuals with the most severe disabilities can work in a competitive, integrated setting and remain employed.

A client is determined to be eligible by DVR staff if he or she is considered to be severely disabled and one of the following conditions are met:

1. The participant has a severe physical, mental, or sensory disability which seriously limits one or more functional capacities such as mobility, communication, self-care, self-direction, interpersonal skills, work tolerance, or work skills in terms of an employment outcome.
2. The Vocational Rehabilitation Counselor expects the participants' rehabilitation will require multiple vocational rehabilitation services over an extended period of time, and
3. The participant has one or more physical, mental or sensory disabilities.

Effective on July 1, 1993 a legislative proviso mandated that Regional Support Networks that contract with the state Mental Health Division and Counties that contract with the Division of Developmental Disabilities transfer state dollars to DVR to improve and expand employment outcomes for persons served by those agencies.

Success in Tracking Using earnings reported to Employment Security, employment outcomes were successfully tracked for 86 percent of persons who, upon completing supported employment services, had entered competitive, individual employment.

Remaining Employed For persons whose employment was trackable, the major findings are:

- For those who had developmental disabilities, about 70 percent were still employed after the first and the second year.
- For those who had disabilities related to mental health, about 70 percent were still employed at the end of the first year, about 50 percent at the end of the second year.

With only a few exceptions, these patterns of retention in employment after completing supported employment services were quite similar, regardless of gender, age, race/ethnicity and services under the new proviso legislation.

- Wages among those remaining employed were between $400 and $500 per month the first year, increasing to about $570 at the end of the second year. These wages were obtained by working, on average, about half time, at $5 to $6 per hour.

Some differences in wages were found among those with developmental disabilities: lower wages among females and among younger persons. Among those with mental health disabilities it was found that clients receiving services under the new proviso legislation had higher wages.

Study Population The study population was the group of clients who received vocational services in the supported employment program, who had mental health or developmental disabilities and whose cases were closed by the Division of Vocational Rehabilitation from January 1992 through June 1994.

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Information Compiled Under special data sharing agreements, client records from the Division of Vocational Rehabilitation were matched with Employment Security records, and with some information from the Division of Developmental Disabilities.

The matching procedures, database construction, and reporting of employment and wages were designed so that the follow-up can be extended for additional cohorts of clients in the future as a program monitoring tool.

Introduction

A Follow up Study of Vocational Rehabilitation Supported Employment Clients
Washington State Department of Social and Health Services

The purpose of this follow-up study is to systematically track employment outcomes, job retention and average monthly wages, for persons who received the Division of Vocational Rehabilitation's (DVR's) supported employment services.

The Study Population

The study population is defined as the group of clients who received vocational services in the supported employment program, whose severe disabilities were considered associated with Mental Health (referred to as MHD clients) or with Developmental Disabilities programs (referred to as DDD clients). An eligible DVR participant is determined by DVR staff to be severely disabled when all three of the following conditions are met:

1. The participant has a severe physical, mental, or sensory disability which seriously limits one or more functional capacities such as mobility, communication, self-care, self-direction, interpersonal skills, work tolerance, or work skills in terms of an employment outcome.
2. The Vocational Rehabilitation Counselor expects the participants' rehabilitation will require multiple vocational rehabilitation services over an extended period of time, and
3. The participant has one or more physical, mental or sensory disabilities.

The Program

The **supported employment** program is a way to structure a job and provide support services so that individuals with severe disabilities can work in an integrated setting and remain employed.

Support services are designed to overcome impediments which interfere with working and may include: job development, job coaching, and extended supports. Extended supports to maintain employment are provided by a person or agency to insure employment beyond DVR vocational services.

Effective on July 1, 1993 a legislative proviso mandated that Regional Support Networks that contract with the Mental Health Division and Counties' Division of Developmental Disabilities transfer state dollars to DVR to improve and expand employment outcomes for persons served by those agencies.

Two Cohorts of Clients

For a first cohort of 191 DDD clients and 82 MHD clients, whose DVR supported employment services closed January 1992 through June 1993, two years of follow-up information on employment and wages was obtained. For a second cohort of 196 DDD clients and 107 MHD clients, whose DVR support employment services closed July 1993 through June of 1994, one year of follow-up information was obtained. After combining the first and second cohorts, there was information from one year for 387 DDD clients and 189 MHD clients.

Information Compiled for Tracking Employment Outcomes

Under a special data sharing agreement, DVR client records were matched with Employment Security earnings records for the same individuals. For persons that could be matched, employment retention and wages for periods of 12 and 24 months of follow-up were tracked. This was done for periods of time specific to each individual, after they were first employed.

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Study Design

This study has designed reports of job retention and wages, separately, for clients associated with MHD and DDD and by the following characteristics:

- by gender,
- by race/ethnicity, and
- by age group.

These reports include a 12 month follow-up for the two combined cohorts and a further 13 through 24 month follow-up for the first, earlier cohort.

Further reports were designed to compare a 12 month follow-up for proviso clients after July 1993 with an earlier 12 month follow-up for a similar group of non-proviso clients before July 1993.

Questions and Presentation of Results

The presentation of results is organized around a logical ordering of questions. The first and foremost question was about an important technical matter.

Trackable employment:
What proportion of supported employment clients could be tracked using Employment Security records as the source of information for employment and earnings?

If this proportion was high enough for clients entering individual, competitive employment and high enough for individuals associated with either MHD or DDD, then we could proceed to ask substantive questions regarding their employment outcomes.

The following substantive questions were addressed separately for clients associated with MHD and DDD:

Overall continuity or retention of employment:
Once employed, what proportion of supported employment clients were employed month by month in the follow-up period? In particular, what proportion were still employed at the end of the first and second years?

Overall monthly wages:
What are the average monthly wages of supported employment clients, month by month, in the follow-up period? Do they increase, decrease or remain the same over the first and second years?

After the examination of the overall trends, of further interest was the exploration of possible differences due to demographic and social factors normally associated with employment and wages and due to the new 'proviso' arrangements after July of 1993.

Differences in employment and wages:
Are there differences in the retention of employment and in monthly earnings

- by gender (women compared to men),
- by race/ethnicity (White Non-Hispanics compared with Non-Whites and/or Hispanics)
- by age group (younger versus older groups) and
- by 'proviso' status ('proviso' clients after July 1993 compared to 'non-proviso' clients before July 1993) ?

Further Questions The results of this study raised further questions. They are described in the Summary and Conclusions section of this report together with some preliminary answers and plans for further investigation.

Continued Monitoring The matching procedures, database construction and reporting of employment and wages were designed so that the follow-up could be extended for additional cohorts of clients in the future as a program monitoring tool. These are described in the Automated Procedures section of the Appendix.

Percent of Persons Whose Employment Can Be Tracked by Employment Security Records

	DDD	MHD	Total
All Types of Employment *(Individual, Group, Specialized Industries)*	76% (387 / 510)	88% (189 / 214)	79% (559 / 707)**
Individual Employment *(Excluding known employment in Group Employment and Specialized Industries who did not report earnings to ES)*	85%* (387 / 454)	90% (189 / 211)	86% (559 / 648)**

- Using employment information reported to Employment Security, we can track employment outcomes for 86% of persons who first entered competitive, individual employment (excluding known employment in Group Employment and Specialized Industries).

- If there was an interest in tracking all types of employment with Employment Security records, only 76% of clients associated with Developmental Disabilities (DDD) and 88% of clients associated with Mental Health (MHD) could be tracked .

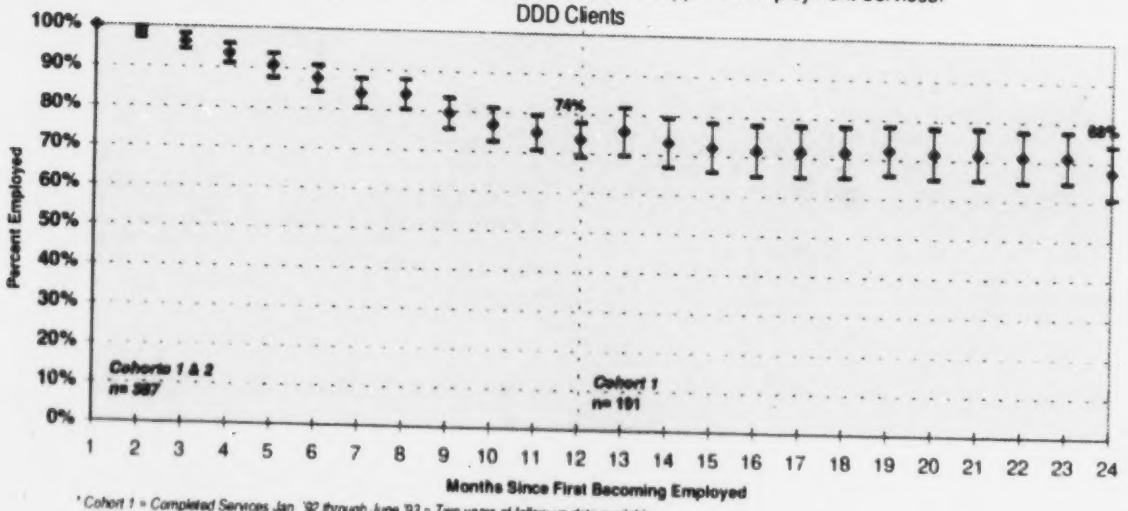
- The major reason for the large proportion of non-trackable employment among clients associated with Developmental Disabilities is the relatively large proportion of these clients in "Group Employment" (See the Summary and Conclusion section for a discussion of this issue.)

** Source: Comparison of DVR participants associated with DDD according to DVR records and DDD's CHRIS records for persons receiving DDD services at the time of first becoming employed.*

*** There were 17 clients associated with both DDD and MHD, so total figures represent the addition of DDD and MHD clients while subtracting the overlap of 17 clients.*

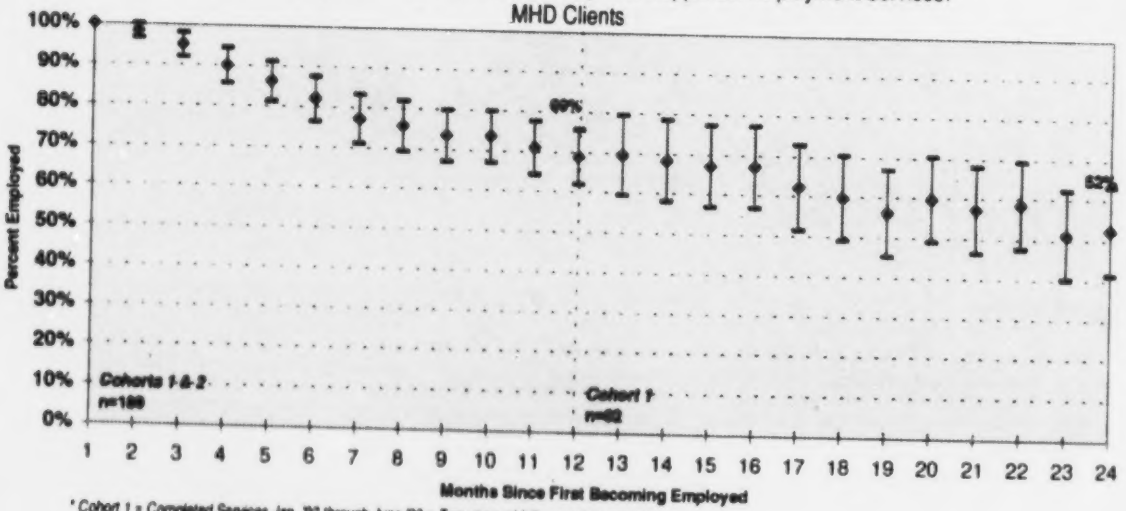
Percent Employed Overall

Percent Employed Among Clients Who Completed Supported Employment Services:
DDD Clients



* Cohort 1 = Completed Services Jan. '92 through June '93 = Two years of follow-up data available
Cohort 2 - Completed Services July '93 through June '94 = One year of follow-up data available

Percent Employed Among Clients Who Completed Supported Employment Services:
MHD Clients



* Cohort 1 = Completed Services Jan. '92 through June '93 = Two years of follow-up data available
Cohort 2 - Completed Services July '93 through June '94 = One year of follow-up data available

- Retention in employment was similar one year after completing Supported Employment services: 74 percent of DDD clients and 69 percent of MHD clients were still employed.
- In the second year, retention in employment did not decline significantly for DDD clients, a slight difference from 74 to 68 percent, while it declined from 69 to 52 percent among MHD clients.

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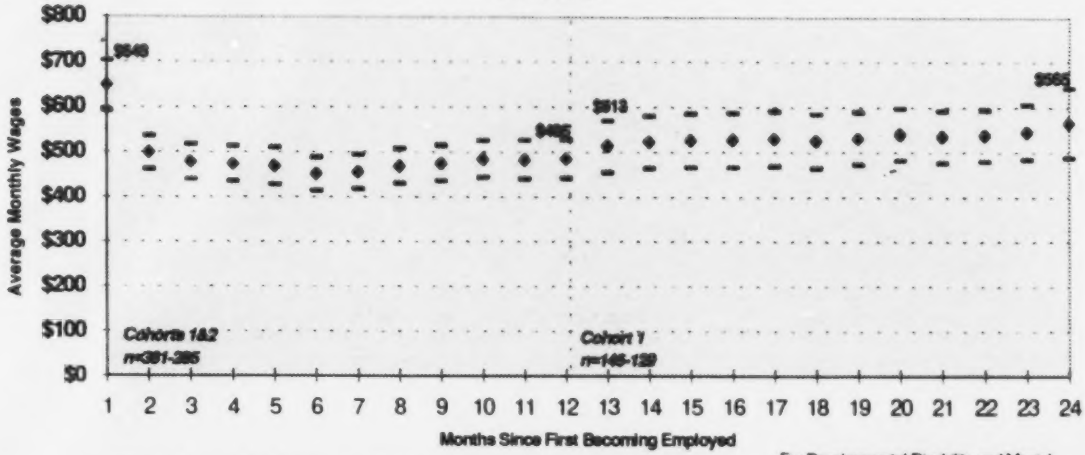
Average Wages Overall

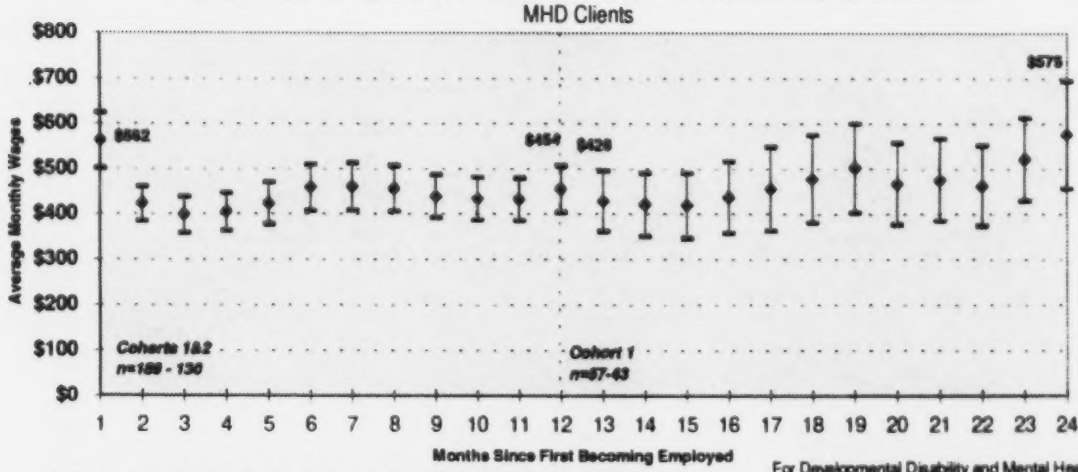
Average Wages Among Employed Clients Who Completed Supported Employment Services:
DDD Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

For Developmental Disability and Mental Health Clients, the average hours worked in a month is around 87, which is about half-time.

Average Wages Among Employed Clients Who Completed Supported Employment Services:
MHD Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

For Developmental Disability and Mental Health Clients, the average hours worked in a month is around 87, which is about half-time

- Average monthly wages among those who remained employed were stable in the first year for both DDD and MHD clients: earnings were between $400 and $500 per month, obtained by working about half time at $5 to $6 per hour, on average.
- In the second year, average wages tended to increase, to $565 for DDD and to $575 for MHD clients, indicating that those employed either worked more or received higher pay, or a combination of both.

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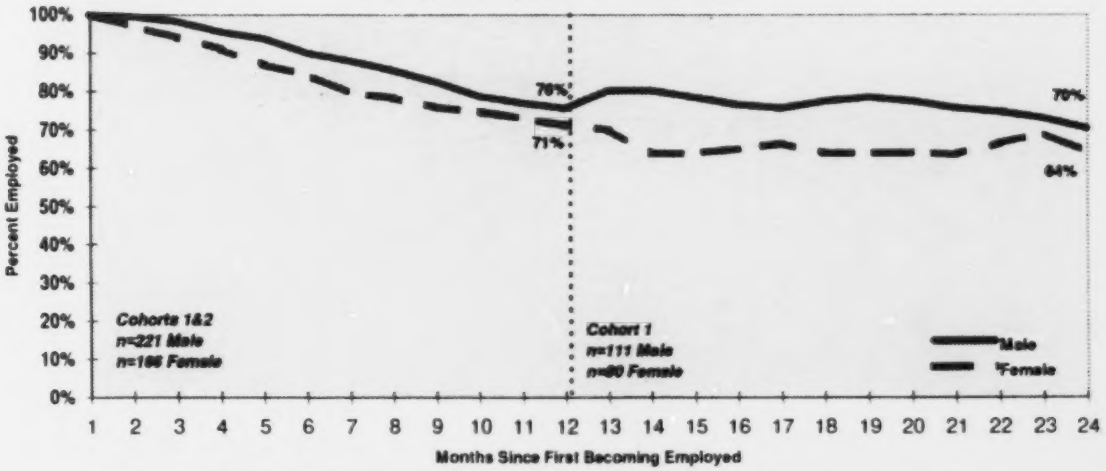
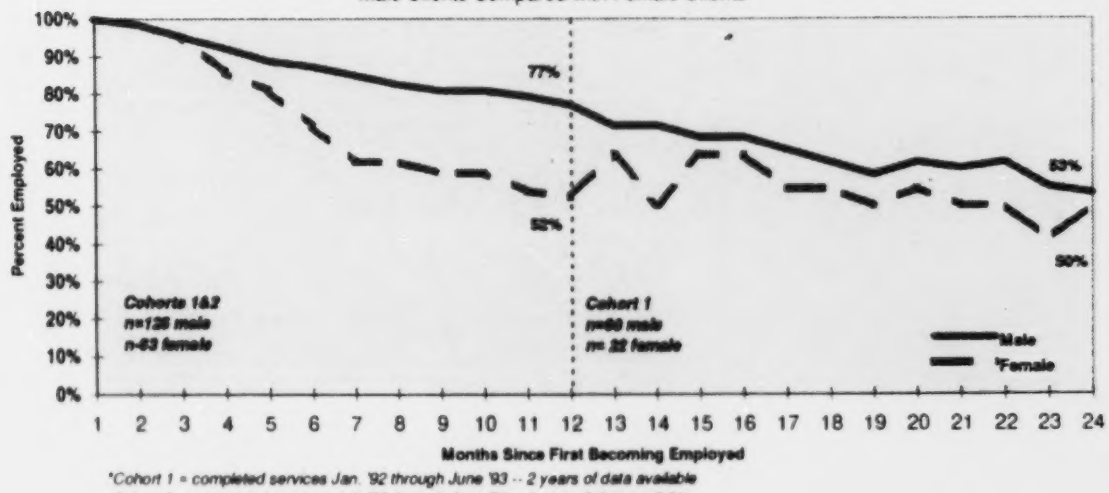
Percent Employed by Gender

Percent Employed Among DDD Clients Who Completed Supported Employment Services:
Male Clients Compared with Female Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

Percent Employed Among MHD Clients Who Completed Supported Employment Services:
Male Clients Compared with Female Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

- At the end of two years, there was almost no difference in job retention between males and females, among either DDD or MHD clients.
- However, only 52 percent of female MHD clients were still employed at the end of the first year, compared to 77 percent among male MHD clients.

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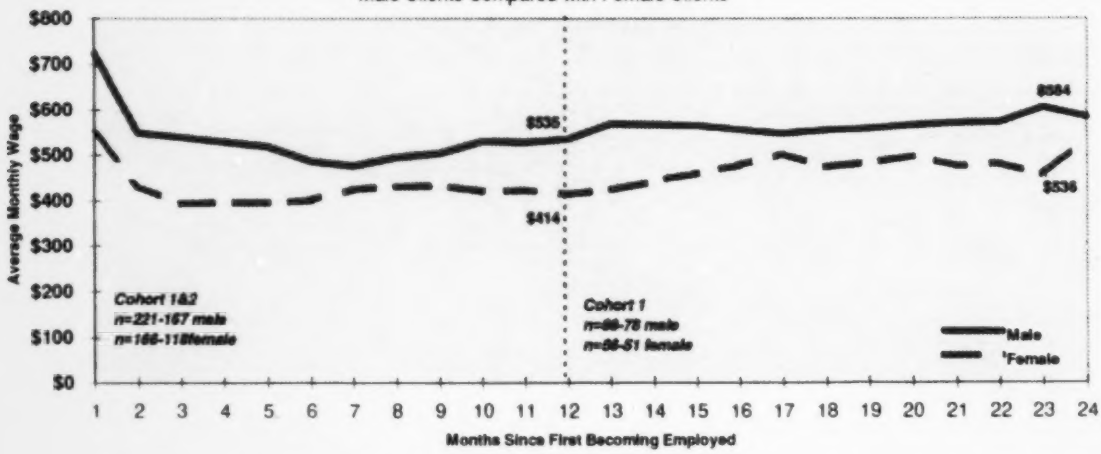
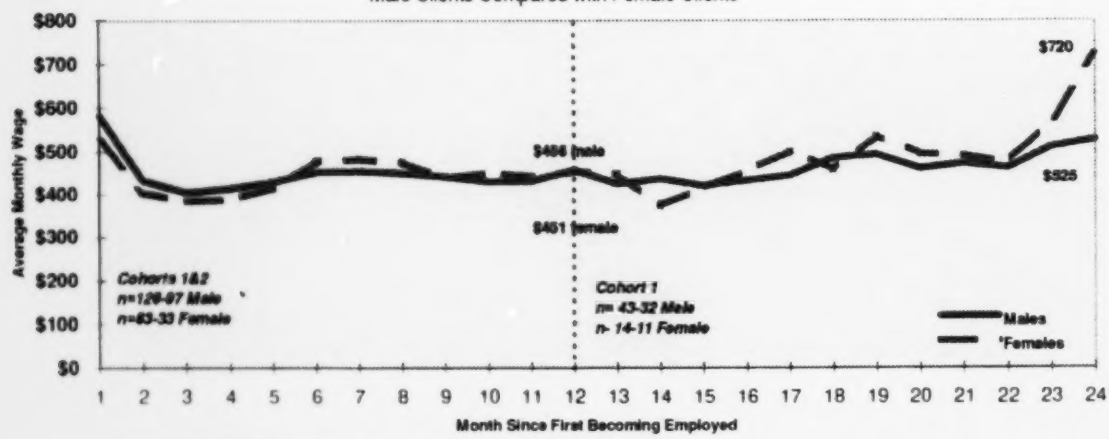
Average Wages by Gender

Average Wages Among Employed DDD Clients Who Completed Supported Employment Services:
Male Clients Compared with Female Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

Average Wages Among Employed MHD Clients Who Completed Supported Employment Services:
Male Clients Compared with Female Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

- Wages for female clients in the two year follow-up period were consistently lower than wages for male clients among DDD employed clients, reflecting either shorter work periods and/or lower pay among females.
- Among MHD clients there were no significant differences in wages between males and females.

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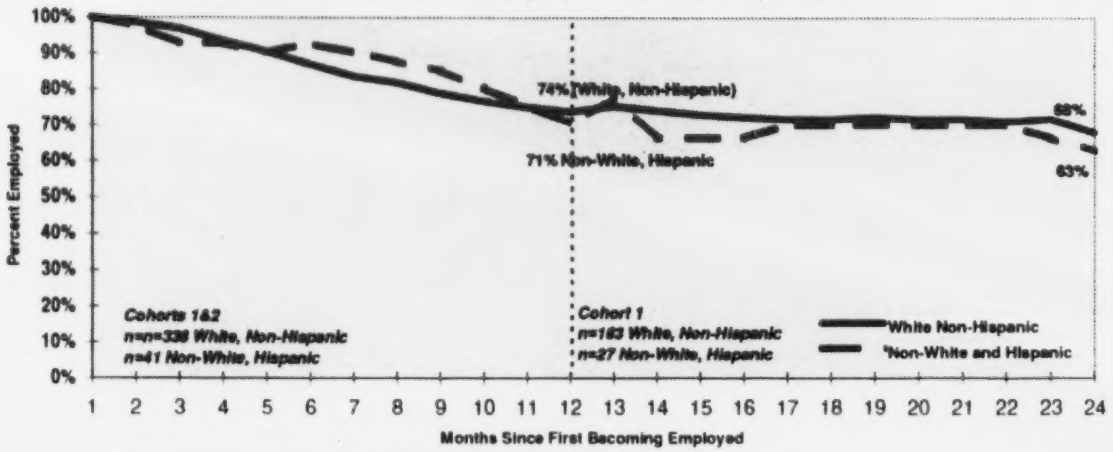
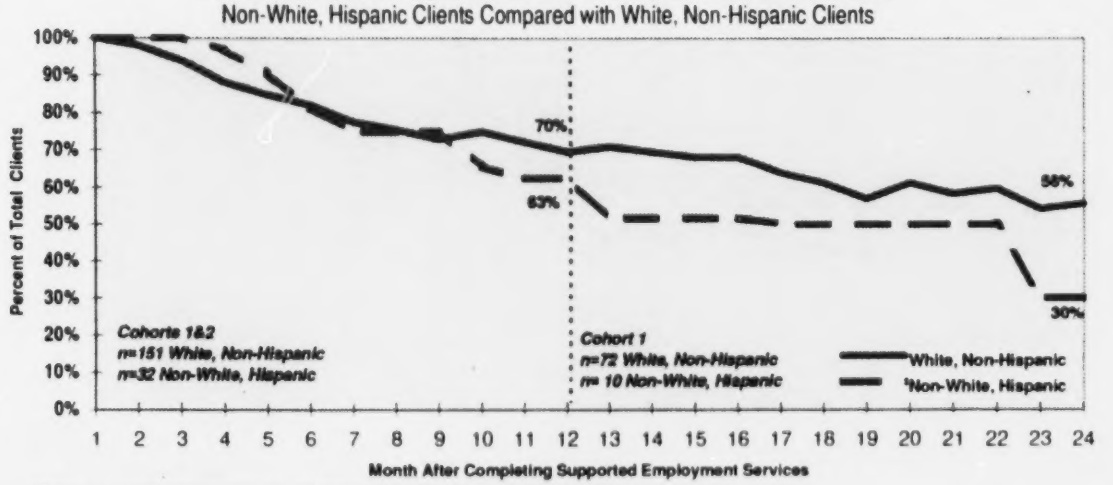
Percent Employed by Race/Ethnicity

Percent Employed Among DDD Clients Who Completed Supported Employment Services:
Non-White,Hispanic Clients Compared with White, Non-Hispanic Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

Percent Employed Among MHD Clients Who Completed Supported Services:
Non-White, Hispanic Clients Compared with White, Non-Hispanic Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

- No significant differences in job retention were found for White, Non-Hispanic clients compared to Non-White, Hispanic clients. This was true for both DDD and MHD clients.

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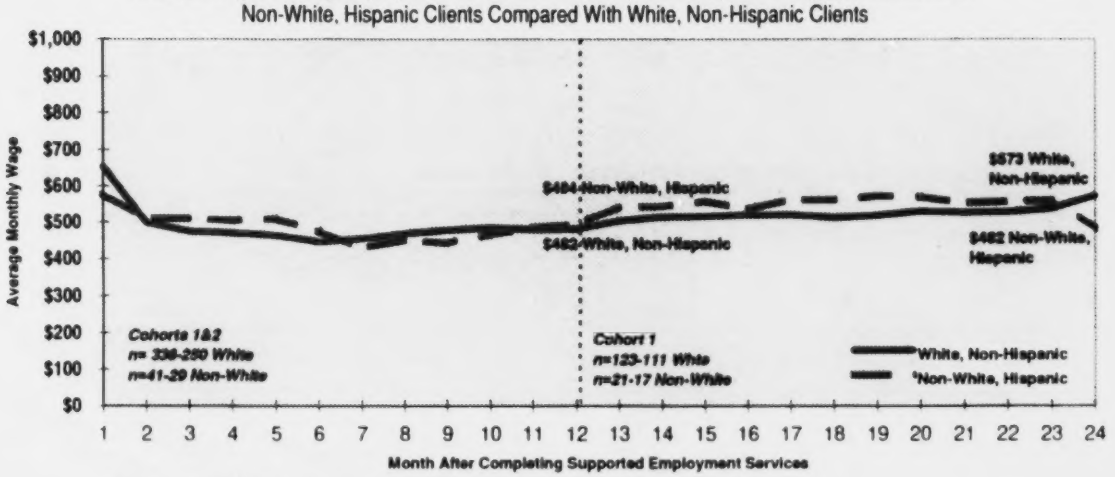
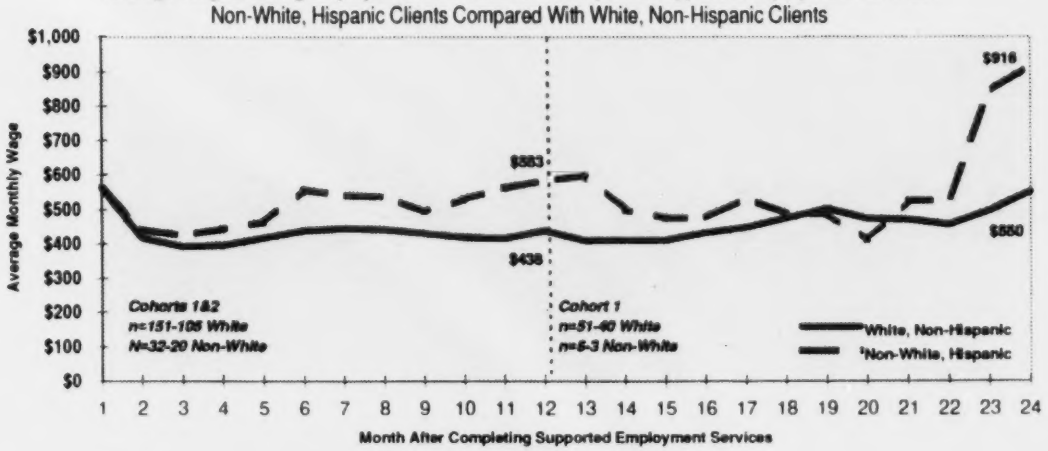
Average Wages by Race/Ethnicity

Average Wages Among Employed DDD Clients Who Completed Supported Employment Services:
Non-White, Hispanic Clients Compared With White, Non-Hispanic Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

Average Wages Among Employed MHD Clients Who Completed Supported Employment Services:
Non-White, Hispanic Clients Compared With White, Non-Hispanic Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

- There were also no consistent significant differences in monthly wages between White, Non-Hispanic and Non-White, Hispanic clients for other DDD or MHD clients

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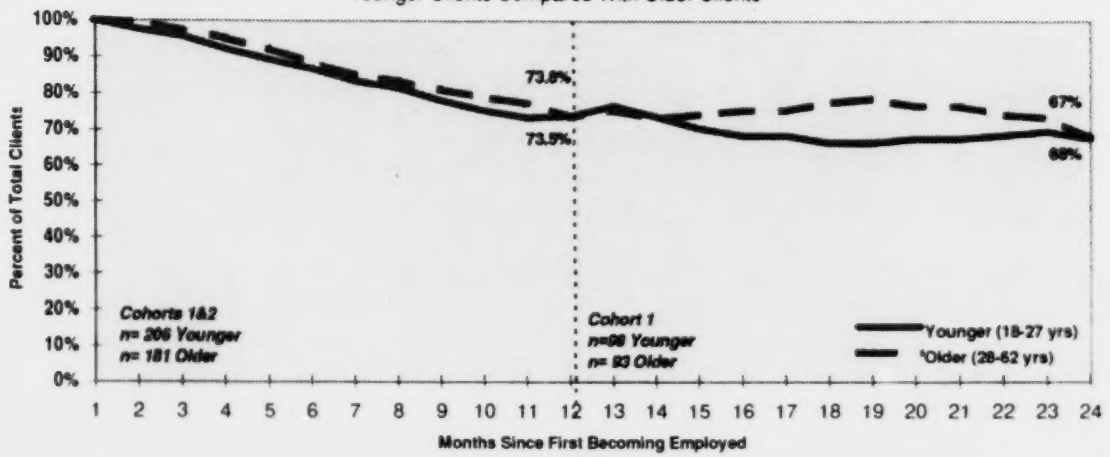
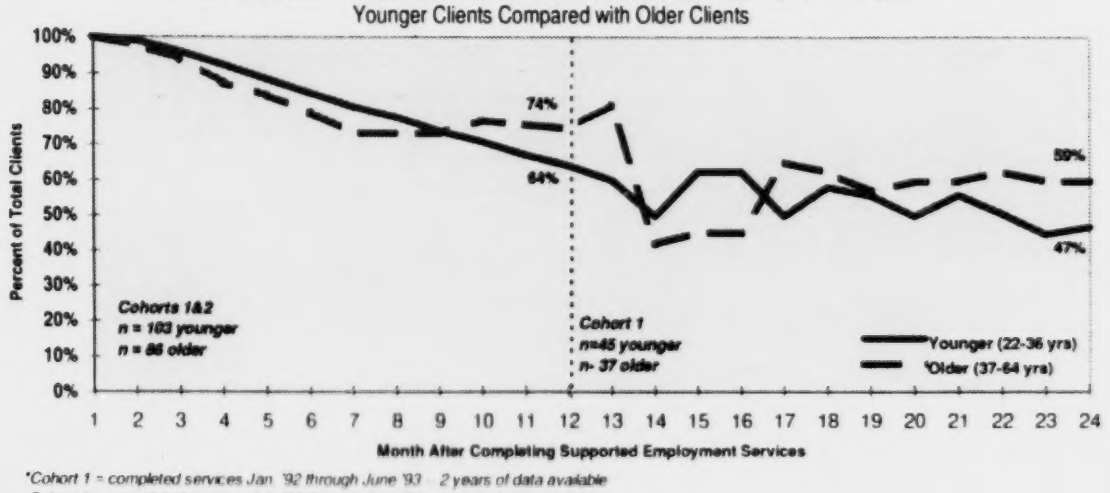
Percent Employed by Age

Percent Employed Among DDD Clients Who Completed Supported Employment Services:
Younger Clients Compared With Older Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

Percent Employed Among MHD Clients Who Completed Supported Employment Services:
Younger Clients Compared with Older Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

- There were non-significant differences in rates of job retention between younger and older persons among DDD and MHD clients.

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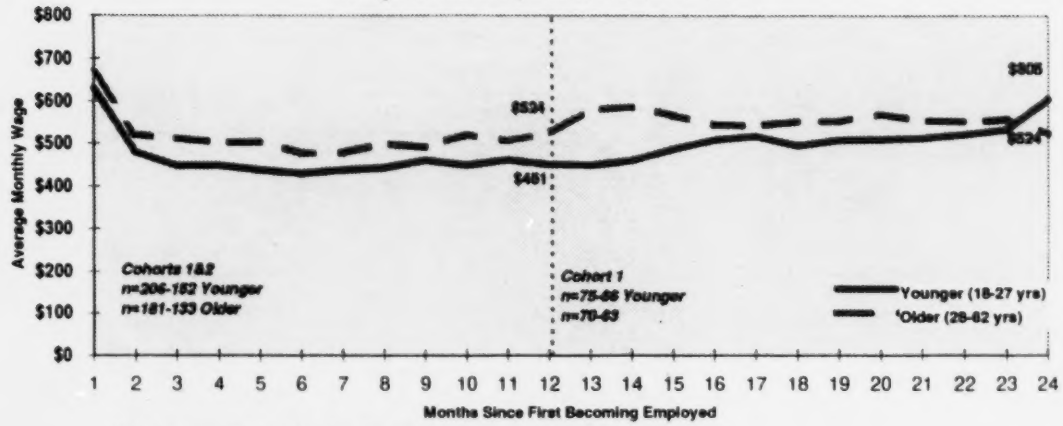
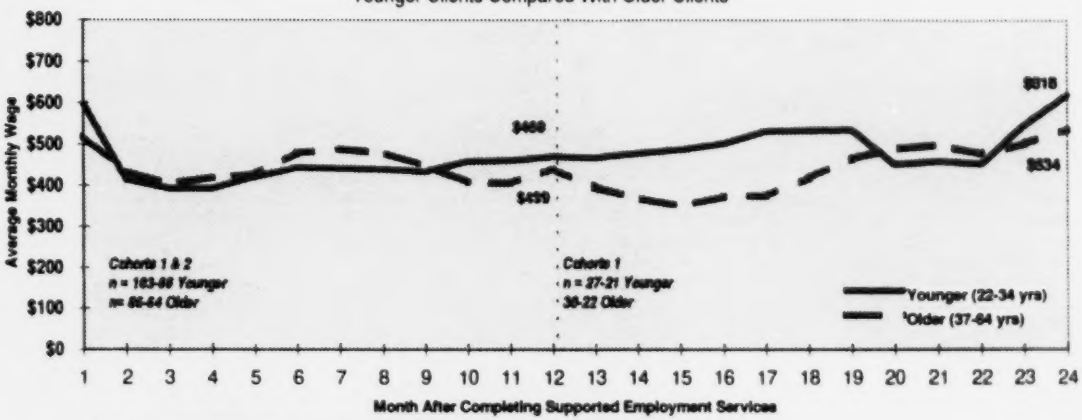
Average Wages by Age

Average Wages Among Employed DDD Clients Who Completed Supported Employment Services :
Younger Clients Compared With Older Clients



*Cohort 1 = completed services Jan. '92 through June '93 -- 2 years of data available
Cohort 2 = completed services July '93 through June '94 -- 1 year of data available

Average Wages Among Employed MHD Clients Who Completed Supported Employment Services :
Younger Clients Compared With Older Clients



*Cohort 1 = Completed services Jan. '92 through June '93 two years of follow-up data available
Cohort 2 = completed services July '93 through June '94 - one year of data available

- Among DDD clients, older employed persons had slightly higher average monthly wages among DDD employed clients, reflecting either shorter work periods and/or lower pay among younger clients.
- Among MHD clients there were non-significant differences in wages between younger and older clients.

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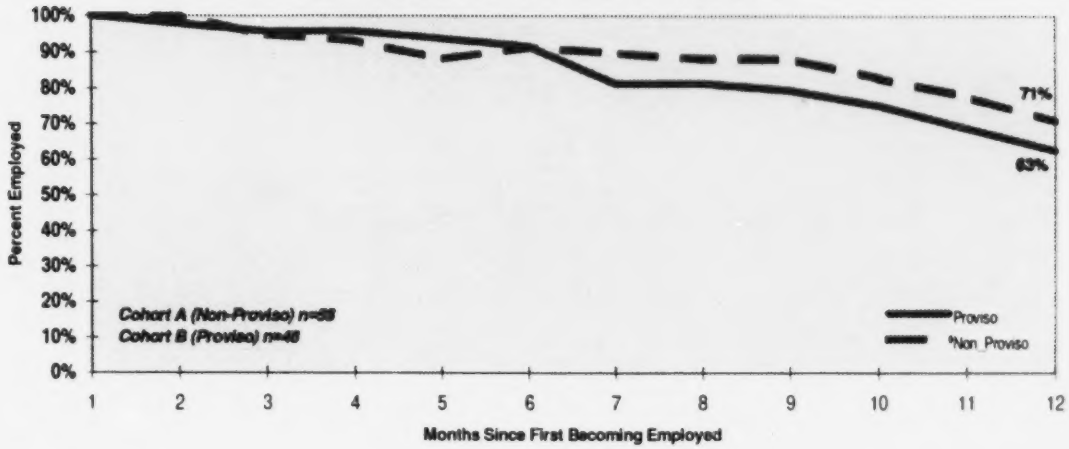
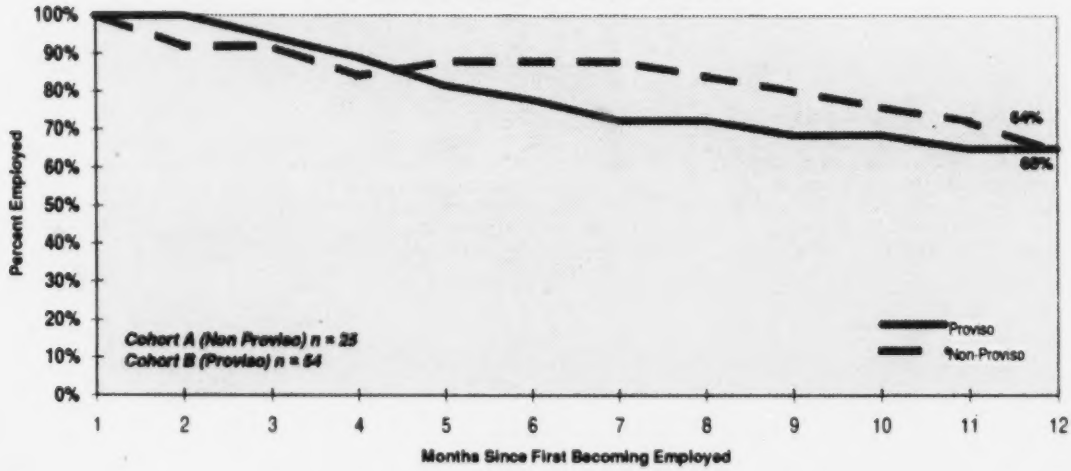
Percent Employed by "Proviso" Status

Percent Employed Among DDD Clients Who Completed Supported Employment Services:
Proviso Clients Compared with Non-Proviso Clients



Percent Employed Among MHD Clients Who Completed Supported Employment Services:
Proviso Clients compared with Non-Proviso Clients



Effective July 1, 1993, a legislative proviso mandated the transfer of local monies to the Division of Vocational Rehabilitation to enhance employment outcomes for persons with supported employment. For one year, we compared the employment outcomes of supported employment services for clients who entered into DVR under this proviso with those of clients who entered similar DVR Services earlier, before 7/1/93, without this proviso.

- Job retention differences between proviso and non-proviso clients were very small. For DDD clients they were slight and inconsistent, except for a lower employment rate for proviso clients at the end of the one year period: 63 versus 71 percent. For MHD clients, there were slightly lower retention rates for proviso clients, except at the end of the year, when the rates were almost the same: 65 versus 64 percent.

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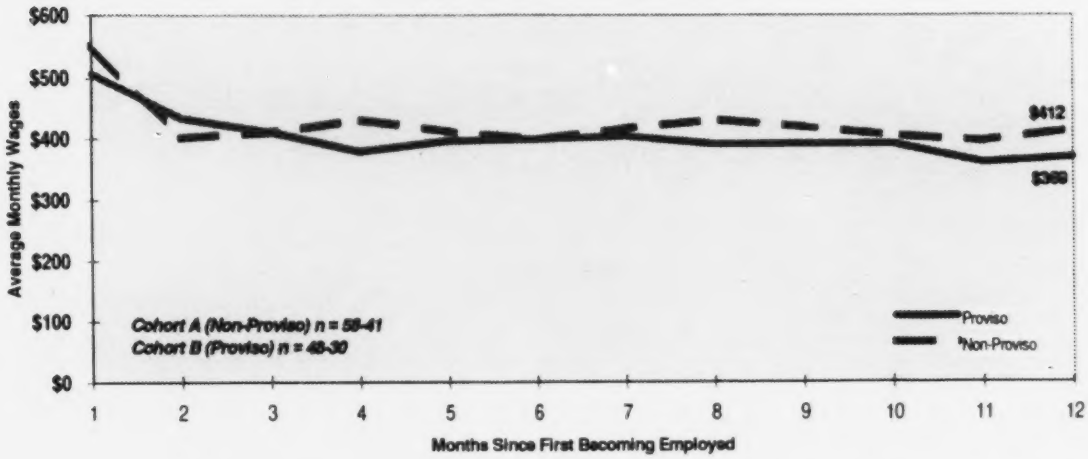
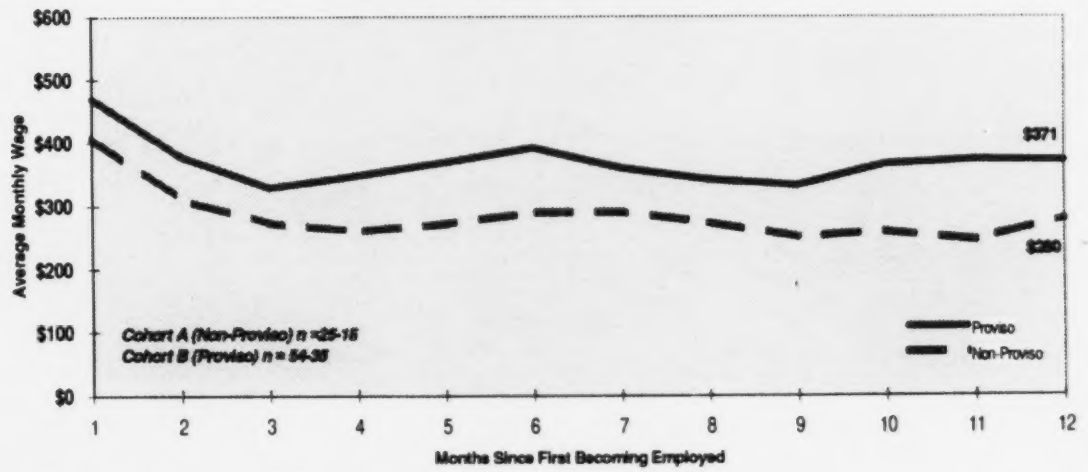
Average Wages by "Proviso" Status

Average Monthly Wages Among DDD Clients Who Completed Supported Employment Services:
Proviso Clients Compared with Non-Proviso Clients



Average Monthly Wages Among MHD Clients Who Completed Supported Employment Services:
Proviso Clients Compared with Non-Proviso Clients



- There were no significant differences in average monthly wages between proviso and non-proviso clients in DDD.
- Among MHD clients, however, proviso clients consistently earned more than non-proviso MHD clients; at the end of one year, the proviso client average wages were $371, while non-proviso client average wages were $280.

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Summary and Conclusions

This study tracks employment and wages for clients who the Division of Vocational Rehabilitation (DVR) considered employed after completing Supported Employment services and who also appeared as wage earners, when they first entered employment, in the records of the Department of Employment Security. These records include reports of wages and hours worked per quarter as provided directly by the clients' employers.

Success in Tracking

The percent of Supported Employment clients who also appeared on Employment Security records, and were therefore trackable, differed by whether they entered individual supported employment, or group supported employment or specialized industries; and by the reason for the clients' disabilities.

If data on all types of employment were wanted, data was available from Employment Security records for the following clients:

- 76 percent of those having severe disabilities associated with developmental disabilities (referred to as DDD clients),
- 88 percent of those having severe disabilities associated with mental health problems (referred to as MHD clients).

An analysis was conducted to determine our ability to track only those first employed in individual supported employment (i.e. excluding those in group supported employment and specialized industries whose earnings were not reported directly to Employment Security).

- The results indicated that 86 percent of those persons who first entered competitive, individual supported employment could be successfully tracked.

Major Findings on Employment

The major findings based on trackable employment are as follows.

With only a few exceptions, the patterns of retention in employment after completing Support Employment services were quite similar, regardless of the following client characteristics: gender, age, race/ethnicity and proviso status.

- Among DDD clients, about 70 percent were still employed after the first and the second year.
- Among MHD clients about 70 percent were still employed after the first year, and about 50 percent after the second year.

The few differences in retention rates due to clients' characteristics occurred mainly among MHD clients: fewer females remained employed after the first year, and there was slightly lower retention among 'proviso' clients during parts of the first year.

Major Findings on Monthly Wages

Average monthly wages among those who remained employed tended to stay the same the first year and tended to increase during the second year. This was found to be true for both DDD and MHD clients.

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- Wages were between $400 and $500 per month the first year, increasing to about $570 per month at the end of the second year. These wages were obtained by working, on average, about half time, $5 to $6 per hour.

Differences in wages due to the clients' characteristics were found among DDD clients: lower wages among females and among younger persons. Among MHD clients, proviso clients were found to have higher wages than non-proviso clients.

Further Questions

These results raised three further research questions:

1. What are the reasons for not being able to track all Supported Employment clients using Employment Security records, particularly the clients considered to be developmentally disabled and employed in group supported employment or in specialized industries?

2. What are the services provided to clients considered to be developmentally disabled and mentally ill by DDD and MHD, before and after supported employment services of the Division of Vocational Rehabilitation?

3. What are the major factors associated with longer retention in employment after receiving supported employment services?

Preliminary Answers

Using DDD data matched to DVR records, we were able to generate some preliminary answers to the first question:

Preliminary results from the match of clients considered to be developmentally disabled with records provided by the Developmental Disabilities Division suggested the following.

- The major reason for the smaller percentage of trackable clients among clients associated with developmental disabilities appears to be the fact that a relatively large proportion, about 10 percent, are in group supported employment or working in specialized industries.

- These types of work are provided by non-profit agencies, who are often contracted to deliver products by for-profit businesses. The non-profit agencies are not required to report the remuneration they pay directly to their workers. These workers are considered to be not 'readily absorbed in the competitive labor market" due to "their impaired physical or mental capacity." Therefore, this work is not considered 'employment' for purposes of unemployment insurance benefits (see RCW 50.44.040-Sec. 4). Workers are paid a non-taxable 'stipend' usually based on the level of productivity of individual workers.

A preliminary examination of type of employers for clients who did not have trackable employment also revealed the following.

- Some clients' employment was not reported to Employment Security because such employment was provided by organizations "operated for religious purposes." This work is also exempt from unemployment insurance obligations (see RCW 50.44.040-Sec.(1)).

- Some clients' employment should clearly have been reported to Employment Security, but, for some unknown reason, wasn't in the particular calendar quarter when they were first employed.

- We found reports of wages in later quarters for some persons for whom we did not find reports of wages to Employment Security at the time of first employment. This could have occurred due to better later reporting, due to changes in type of work, or due to changes in employer. The proportion of such persons, as a percent of all trackable persons, is relatively small: about 3 to 6 percent, depending on the calendar quarter and depending on client characteristics.

Current Activities

Research activities are underway to start collecting information to answer the second and third questions.

Current research activities include matching DVR Supported Employment clients with client records from management information databases of the Division of Developmental Disabilities and of the Mental Health Division. This is being done in order to gain, in a cost efficient way, more information on the clients' characteristics and the type of services they obtained at different points in time.

A description of these characteristics and services may help achieve a better coordination of supportive services among the three divisions involved. Furthermore, one could focus on coordinating particular services, at particular times, with particular clients if better information could be routinely collected on services, timing and characteristics which were more related to job retention.

Methodological Cautions

Generalizability of Results

The results discuss the employment outcomes for clients with Employment Security records from the time they were first employed, thus making them trackable. These clients represent a very high proportion, 86 percent, of all clients we estimated were first employed in 'competitive, individual' employment. **For this reason, generalizing the results to clients who entered 'competitive, individual employment' seemed justifiable.**

Our ability to generalize depends on whether the relatively small occurrence of non-reporting occurs fairly randomly across employers and across clients. A cursory examination of names of employers reporting and non reporting did not reveal any recognizable pattern by size or type of employer. Furthermore, the percentage of trackable clients did not differ by known characteristics of clients: by age, gender, race/ethnicity, and 'proviso' status.

The main difference in proportion of trackable clients was revealed among clients considered to be developmentally disabled: only 76 percent were trackable with Employment Security records. However, this lower percentage of trackable clients seems to be explained by the relatively high proportion of these clients, about 10 percent, entering 'group supported employment or specialized industries.' **The reader should be cautioned that the results cannot be generalized to clients employed in 'group supported employment or specialized industries.'**

Identification as Mentally Ill or Developmentally Disabled

This identification was made by the DVR case manager during the application process to supported employment services, based on the nature of the client's disability. **The identification does not necessarily indicate prior eligibility or enrollment in DDD or MHD services nor subsequent receipt of extended services by DDD or MHD local providers after DVR's closing of supported employment services.**

For example, preliminary evidence* suggests that 6 percent of clients identified as developmentally disabled were never enrolled in DDD services. Further information gathered by planned matches of records with DDD and MHD will show the degree of overlap of this identification with actual prior enrollment and subsequent receipt of extended employment support services by DDD and MHD.

Results by 'Proviso' Status are, At Best, Tentative

The findings concerning 'proviso' clients should be interpreted very cautiously. The definition of the 'proviso' clients cohort is restricted to those entering and finishing DVR's supported employment services within a short one year timeframe, at the early implementation of the collaborative arrangements. These arrangements may not have been working early in this period nor in place uniformly across the state.

* These data were produced by Lisa A. Weber, Project Director for the Trends and Patterns Database (DDD-TPD), in February 1996. DDD's County Human Resources Information System (CHRIS) and the DVR data were matched for common clients. (See Table on page 27.)

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In order to reach more conclusive results, continued monitoring of employment outcomes of later 'proviso' cohorts are needed, together with the specification of what extended services have been provided by the collaborative proviso arrangements through time.

Employment Outcomes and Re-entry into DVR's Supported

Dropping out of employment does not indicate probable re-entry into DVR supported employment. If clients did re-enter in the two-and-a-half year period of this study, we chose to follow up their employment outcomes from the time they finished their **first** supported employment program. So, for these clients, dropping out of employment was probably accompanied by re-entry shortly thereafter. This re-entry happened so rarely, providing us with so few sample cases, that factors effecting the probability of re-entry were not studied at this time. Among the clients rehabilitated in the supported employment program from January 1992 to June 1995, only 23 out of 812 DDD clients re-entered, and only 3 out of 447 MHD clients re-entered.

Retention of Employment

Retention of employment is not necessarily uninterrupted continuous employment, is approximate in length (could be off by two months), and is measured from the time of first employment (not from the time of 'rehabilitation' or closing of DVR services).

In this study, retention of employment is defined as still being employed after a certain period of time. While this definition may imply continuous employment each month, this is impossible to ascertain with certainty due to the fact that Employment Security records include overall wages and hours over a whole calendar quarter. For example, half time employment over a quarter could mean half time in each of the three months or full time for one and a half months out of three. This limitation cannot be overcome with the data available, and hours of employment have been assumed to be distributed equally across the months in any given quarter.

For similar reasons, the end of employment could occur anytime within a three month period, particularly for persons working part time. Given the average hours employed by the population of this study (about half time), this study could overestimate the end of employment by one or two months.

In this study, retention of employment was measured from the time of first employment in order to correctly allocate monthly wages, which were reported to Employment Security by calendar quarter, and to allow the tracking of collaborative support services and extended services from the time of first employment. Analyses of retention of employment from the time of 'rehabilitation' or closing revealed the same patterns of retention as from the time of first employment, except for the average two month lag. This is due to the fact that, by the conditions defining 'rehabilitation,' clients had to be continuously employed the first two months.

Automated Monitoring Procedures

Data from the Division of Vocational Rehabilitation were processed and then Social Security Numbers were used to match Employment Security Department data in order to attach reported earnings histories to these particular DVR client records. This was done in an effort to learn if variables such as age, gender, race, or proviso status made any difference in employment outcomes for graduates of DVR Supported Employment Programs. Additionally, these processes and programs used in database creation and analysis of the data have been designed to be used as a prototype of an automated system, which will systematically track clients of DVR over time using Employment Security earnings data.

Data Provided by The Division of Vocational Rehabilitation

The Division of Vocational Rehabilitation (DVR) provided two files listing Supported Employment clients: one of 826 names classified as Developmental Disabilities Division (DDD) clients, and the other of 446 names classified as Mental Health Division (MHD) clients. All clients on these lists represented cases that had been closed as 'successful rehabilitations' after becoming employed, in the period from January 1992 to June 1995.

Re-entry

By a process of unduplication we found that these lists of names included some multiple occurrences of the same persons. These persons represent cases of 're-entry' and 'multiple successful rehabilitations' in the given time period. This occurred when a client began a new job, and about two months later, his or her case was closed as a 'successful rehabilitation,' then, for whatever reason or reasons, the client re-entered DVR's Supported Employment program, began another job, and upon completion of the 60-day stabilizing period, was closed and again counted as a 'successful rehabilitation.' There were 23 DDD clients and 3 MHD clients who re-entered DVR Supported Employment Services in this manner, in the lists provided.

For processes of analyses of employment outcomes, we took only the dates of the first vocational services episode, and the follow-up period began after the first dates of employment during the first 'vocational rehabilitation.'

Identification of DVR Clients as DDD or MHD Clients

The assignment of a client's identification with DDD or MHD was done during the application process by the DVR case manager based on the nature of their disability. Particularly before the new proviso legislation, which set up collaborative funding and service arrangements, this identification does not necessarily indicate that the client was referred, enrolled, or served by the assigned division. Later matching of DVR records with DDD and MHD records will show the degree to which clients identified as clients of these divisions actually obtained services from these divisions.

Dual Identification

By the same process of unduplication we found that there were also 17 cases where clients appeared on *both* division's lists provided by DVR. These are clients with a dual identification or dual diagnosis, clients whose disabilities were considered associated with both mental health and developmental disabilities (presumably having receiving both DDD and MHD services).

For purposes of analyses of employment outcomes we maintained this small duplication across the two lists. That is, this small number of clients appeared as presumably receiving extended services by DDD and also receiving extended

services by MHD. The number of clients who had a dual identification was too small for us to analyze their employment outcomes separately from those with only one association.

Data Editing or Cleaning

No manual cleaning or editing of DVR data was performed that could not be done by some routine automatic programming. The reason for this decision was that in creating a prototype for an automated monitoring system, emphasis had to be placed in minimizing costly human intervention and maximizing tasks that could be done automatically. Edits that could be automated were included in the programs that read the incoming files of raw data and converted them to SAS data sets. Due to these restrictions we know there will be some error in the data sets. A visual inspection of the data revealed more than a dozen instances, for example, of a man named 'Shirley' or a woman named 'Jeffrey'. Name/gender recognition cannot be automated and the proportion of error is at tolerable levels.

The Definition of the DVR Supported Employment Population That We Could Follow-up For at Least One Year

Since at least a one-year follow-up period was needed, only clients whose successful rehabilitation date fell on or before June 30, 1994 in our population were included. Eliminated from DVR's original lists were clients whose first close date was on or after July 1, 1994. In so doing, the 826 names identified with DDD were reduced to 527 (which included re-entry events, for ten clients) and the 446 names identified with MHD were reduced to 216, also including one client who re-entered. Seventeen clients were identified as clients of both divisions. These two files were merged by Social Security Number and then unduplicated. The result was a SAS data set of 715 unduplicated individuals, which we set out to track using Employment Security earnings data. The divisional breakdown follows:

	DDD	MHD	Both	TOTAL
DVR Individuals	**517**	**215**	**<17>**	**715**

From this unduplicated SAS data set, the list of 715 Social Security Numbers was extracted and sent to Employment Security for matching against their employment records.

Data Provided by the Employment Security Department

Under an inter-agency data-sharing agreement, the Employment Security Department (ESD) provided access to Washington State Employers' Reports of Quarterly Earnings for all quarters in the past seven plus years: between March 1989 and June 1995. This long time period was necessary in order to obtain follow-up data for four and a half years (from January 1992 onwards), and prior employment data for at least two years for all clients (from March 1989 to March 1991, assuming an average vocational services length of about nine months). Employment information in two prior quarters, the third quarter of 1987 and the third quarter of 1988, was also checked.

Received in two parts, Employment Security made available a total of over 130,000 records, which included the earnings and hours for all quarters that clients were employed. If the Employment Security's matching procedure did not find a record for a particular quarter for a given client, we assumed that the client was not employed that quarter.

One Record Per Person Per Quarter of Available ESD Data

Within these files, multiple records exist for each client, because there is one record per person per employer per quarter, and because some people work for more than one employer in a given quarter. For our purposes, since we were not

concerned with the identity of the employers, we collapsed hours and earnings from different employers in the same quarter into one record of hours and earnings per quarter per person. This means that for any one person, if steadily employed during that time from March 1989 through June 1995, there could be one consolidated record for each quarter - for a possible maximum total of 29 ESD records per person.

Matching ESD Data with DVR Data

Using DVR-provided Social Security Numbers, our population of 715 unduplicated DVR clients was matched against the ESD records. Employment data for at least one quarter, or 'Any ESD Employment Hits', for 655 clients, was found as shown below:

	DDD	MHD	Both	TOTAL
ESD 'Misses'	53	8	<1>	60
ESD 'Hits'	464	207	<16>	655
TOTAL	**517**	**215**	**<17>**	**715**

Then, the ESD data, if any, for each DVR client, was merged with the DVR data, yielding one record per person for the original group of 715 unduplicated clients.

How Quarterly Wages Were Distributed Over Three Months

Since ESD keeps only quarterly data, and most other DSHS client information provided monthly figures, methods previously employed by ORDA projects were used to apportion quarterly wages as realistically as possible over the three-month periods.

- If the calendar quarter included the date of first employment, earnings for that quarter were allocated in the time period after first employment (i.e. assuming no earnings prior to that date)
- Thereafter, quarterly earnings were apportioned equally across the three months corresponding to each quarter.

Converting Calendar Dates to Client-Specific Dates in Creating the Before, During, and After Arrays

In order to describe employment outcomes for clients in the 12- and 24-month periods immediately following their DVR services, we used clients' calendar dates of entry, employment, and rehabilitation to create client-specific Before, During, and After arrays of earnings and hours worked in relation to receiving DVR Supported Employment Services.

As used in other ORDA projects, these client specific time arrays make possible our analysis of earnings in time periods **before, during, and after** receiving services from a particular program or agency. For this study of DVR Supported Employment:

- The before array was defined as before the start day of DVR services
- The after array was defined as after the day of first employment (usually about two months before the date of successful rehabilitation).

The Monitoring System: Automating Analysis Report Generation

Two cohorts were followed in this monitoring project, providing one- and two-years of follow-up data, respectively. For analysis purposes, certain exclusions were made, and several variables and subgroups were created. Following are methodological exclusions and considerations that influenced production and content of the automated reports. SAS output was designed to arrive in Excel spreadsheets, thereby creating or updating pre-formatted charts.

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Exclusions Unusual Dates Automatic exclusions were built into the programs in the cases of unusual dates. The general requirement for a successful rehabilitation and DVR case closure is that a client be continuously employed in Supported Employment for at least 60 days. While there is some variation around this two-month 'stabilization period,' we found there were eight cases in which the time elapsed between the date a client began employment and the date of rehabilitation or closure was either longer than one year or technically impossible (i.e., the client was coded as successfully rehabilitated **before** even beginning employment). Since we were following-up clients' employment from the time of first employment we had to eliminate these clients from our initial population of 715, leaving a total of 707 unduplicated individuals:

	DDD	MHD	Both	TOTAL
DVR Individuals	517	215	<17>	715
<Unusual Dates>	< 7>	<1>	< 0>	< 8>
Our DVR Group	**510**	**214**	**<17>**	**707**

Gender Gender was reported for all clients, and the breakdown is shown below for the 707 unduplicated individuals in our DVR group:

	DDD	MHD	Both	TOTAL
Female	218	67	<7>	278
Male	292	147	<10>	429
TOTAL	**510**	**214**	**<17>**	**707**

Females were outnumbered by males in both divisions, comprising 42.7% of the DDD-affiliated clients, and 31.3% of the MHD-affiliated clients.

Age The clients' ages were calculated as the difference in years from the date of birth to the date at successful rehabilitation, when the DVR case was closed. The 50th percentile was used to create subgroups of Older and Younger clients in each division.

	DDD		MHD	
50th Percentile		***27 years***		***36 years***
Younger	*(18-27 y.o.)*	256	*(22-36 y.o.)*	116
Older	*(28-62 y.o.)*	254	*(37-64 y.o.)*	98
TOTAL		**510**		**214**

Race/Ethnicity and Hispanic Origin The DVR data files supplied two variables that we used to establish our single race/ethnicity variable. The first one asked about race, and the other asked about Hispanic Origin.

Race Almost 85% of the entire group of 707 clients reported themselves to be White/European American. Because the numbers in the other racial categories were so small, they were combined into one group which we called "Non-White Racial Minorities", and they made up 9.5% of the 707 unduplicated individuals in the two divisions combined. The last group we called "Don't Know or Other", and in this group we placed those who responded 'Other' or 'Do Not Wish To Provide'; they composed 5.9% of the two divisions together.

Hispanic Origin Nearly half of the same 707 clients, 47.8%, responded 'Do Not Wish To Provide' or 'Not Yet Collected' to the Hispanic question. Almost

the same percentage, 49.2%, declared they were 'Not of Spanish/Hispanic Origin'. Only 3.0% responded affirmatively, with 'Mexican, Mexican/American or Chicano' or 'Other Spanish/Hispanic'.

One Race/Hispanic Variable

In order to establish one variable reflecting both of the above, which would create a unique racial grouping for Hispanic clients, three decision rules were employed. Any Hispanic 'Yes' was coded as "Hispanic." If a client's race was White and Hispanic was 'No' or 'Don't Know or Other', the client was considered "White Non-Hispanic." Those identifying themselves with other named racial groups who responded 'No' or 'Don't Know or Other' to the Hispanic question were considered "Non-White Racial Minorities."

Cohorts Were Tracked Over 12- and 24-Month Follow-up Periods

Clients who completed their DVR services from January 1992 through June 1993 offered at least two years of follow-up data, while a smaller cohort of clients, who completed their DVR services from July 1993 through June 1994, offered just 12 months of follow-up data. These groups were called cohorts.

For graphic presentations of overall percent employed, overall average earnings, as well as comparisons by age, race/ethnicity, and gender, of DDD and MHD clients, Cohorts 1 and 2 were defined as follows:

Clients in Cohort 1 were considered successfully rehabilitated (and their cases closed) by DVR between January 1, 1992 and June 30, 1993. For these clients, there were two years of follow-up data.

Clients in Cohort 2 had rehabilitation dates between July 1, 1993 and June 30, 1994, and for these clients, there was one year of follow-up data.

Special Proviso and Non-Proviso Cohorts

Proviso clients presented a unique situation in terms of defining appropriate cohorts of Proviso and Non-Proviso clients because Proviso status only became an option for clients *beginning* their DVR Supported Employment services on or after July 1, 1993. Most clients starting after this date were designated as Proviso clients. Non-Proviso clients were chosen from an earlier time period. The two cohorts had to be defined in a similar way: both had to start services and also be rehabilitated within a one year period.

Cohort B: Proviso Clients

The **Proviso Clients (Cohort B)** represented in our charts are those who satisfied both of the following conditions:

1) they entered DVR Supported Employment programs for one year on or after July 1, 1993 and were considered successful rehabilitations in the same year by June 30, 1994; and

2) they were designated as Proviso clients. Most, but not all, clients in the Proviso-eligible time period were designated Proviso clients. Implementation of the proviso arrangements happened gradually and not uniformly across the state.

Cohort A: Non-Proviso Clients

In order to chose a comparable group of **Non-Proviso clients in Cohort A**, the 12-month period immediately prior to the Proviso enactment was selected: from July 1, 1992 through June 30, 1993. Selected were those clients in each division who:

1) had a similar one-year window between entry and rehabilitation: namely, those whose date of entry into DVR Supported Employment was on or after July 1, 1992, and whose rehabilitation, or close date, was on or before June 30, 1993; and

2) were designated as Non-Proviso clients, (excluding the few clients who were "grandfathered" as Proviso clients).

The following table is presented in order to clarify the clients included and excluded from the Proviso/Non-Proviso cohorts.

	DDD	MHD
Entry date 7/1/93 or later		
AND rehab by 6/30/94		
Proviso (Cohort B)	**48**	**54**
Non-Proviso	14	6
(due to early non-uniform implementation)		
Entry date on or after 7/1/92		
AND rehab by 6/30/93		
Proviso ("grandfathered")	3	0
Non-Proviso (Cohort A)	**58**	**25**

Percentage of Supported Employment Clients Appearing on Both Employment Security and DVR Records

*(At Time of First Employment for Those Cases Closed January 1, 1992-June 30, 1994)**

% Employed According to ES	DDD 76% (387 / 510)		MHD 88% (189 / 214)	
By Gender	Males 76% (221 / 292)	Females 75% (166 / 218)	Males 86% (126 / 147)	Females 94% (63 /67)
By Race/Ethnicity	White, Non-Hispanic 76% (338 / 443)	Non-White, Hispanic 77% (41 / 53)	White, Non-Hispanic 92% (151 / 164)	Non-White, Hispanic 84% (32 / 38)
By Age	Younger 80% (206 / 256)	Older 71% (181 / 254)	Younger 86% (103 / 116)	Older 88% (86 / 93)

** These data were obtained through our match of DVR data on 510 DDD and 214 MHD clients with ESD data.*

*Types of DDD Employment Services Received by Persons on the DDD Caseload at the Time DVR Says They Were First Employed***

DDD Employment Service Type	ESD match with DVR at Date of First Employment	No ES match with DVR at Date of First Employment	Total
Individual Supported Employment	*197 (91.6%)*	*18 (8.4%)*	*215*
Group Supported Employment	*5 (21.7%)*	*54 (78.3%)*	*69*
Specialized Industries	*6 (75.0%)*	*2 (25.0%)*	*8*
Total	*218*	*74*	*292*

These data were produced by Lisa A Weber, Project Director for the Trends and Patterns Database (DDD-TPD), in February1996. DDD's County Human Resources Information System (CHRIS) and the DVR data were matched for common clients.

** Of the 510 individuals shown by DVR to begin employment on a particular date, 292 of these people appear in DDD's CHRIS database as concurrently receiving one of three types of employment services. The remaining 218 DDD individuals shown by DVR to be employed through Supported Employment Programs did not appear in the CHRIS database as receiving any type of DDD Employment Services at that same time.

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Percent Employed Overall

Percent Employed Among Employed Clients Who Completed Supported Employment Services:
DDD Clients

Cohorts 1&2 (N=387)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Percent Employed	100%	98%	96%	94%	91%	88%	84%	84%	80%	77%	75%	74%
Cohort 1(N=191)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Percent Employed	76%	73%	72%	72%	72%	72%	72%	72%	72%	71%	71%	68%

Percent Employed Among Employed Clients Who Completed Supported Employment Services:
MHD Clients

Cohorts 1&2 (N=189)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Percent Employed	100%	98%	95%	90%	86%	82%	77%	76%	74%	74%	71%	69%
Cohort 1(N=89)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Percent Employed	70%	68%	67%	67%	62%	60%	56%	60%	57%	59%	51%	52%

Average Wages Overall

Average Wages Among Employed Clients Who Completed Supported Employment Services:
DDD Clients

Cohorts 1&2												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Average Wage	$648	$499	$478	$474	$468	$451	$456	$469	$475	$484	$483	$485
Number Employed in Cohorts 1 & 2	387	381	373	362	351	339	326	319	308	298	291	285
Cohort 1												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Average Wage	$513	$522	$527	$527	$530	$525	$531	$541	$535	$538	$545	$565
Number Employed in Cohort 1	145	140	138	137	137	137	138	137	137	136	136	129

Average Wages Among Employed Clients Who Completed Supported Employment Services:
MHD Clients

Cohorts 1&2												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Average Wage	$562	$422	$397	$404	$423	$458	$460	$455	$439	$433	$432	$454
Number Employed in Cohorts 1 & 2	189	186	180	170	163	155	146	143	139	139	134	130
Cohort 1												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Average Wage	$428	$420	$418	$437	$456	$477	$501	$467	$475	$462	$521	$575
Number Employed in Cohort 1	57	56	55	55	51	49	46	49	47	48	42	43

Percent Employed by Gender

Percent Employed Among Clients Who Completed Supported Employment Services:
Male DDD Clients Compared with Female DDD Clients

Cohorts 1&2 (N=387)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Male (n=221)	100%	100%	98%	95%	94%	90%	88%	86%	82%	79%	77%	76%
Female (n=166)	100%	97%	94%	91%	87%	84%	80%	78%	76%	75%	73%	71%
Cohort 1 (N=191)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Male (n=111)	80%	80%	78%	77%	76%	77%	78%	77%	76%	75%	73%	70%
Female (n=80)	70%	64%	64%	65%	66%	64%	64%	64%	63%	66%	69%	64%

Percent Employed Among Clients Who Completed Supported Employment Services:
Male MHD Clients Compared with Female MHD Clients

Cohorts 1&2 (N=189)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Male (n=126)	100%	98%	95%	92%	89%	87%	85%	83%	81%	81%	79%	77%
Female (n=63)	100%	98%	95%	86%	81%	71%	62%	62%	59%	59%	54%	52%
Cohort 1 (N=82)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Male (n=60)	72%	72%	68%	68%	65%	62%	58%	62%	60%	62%	55%	53%
Female (n=22)	64%	60%	64%	64%	55%	55%	50%	55%	50%	50%	41%	50%

Average Wages by Gender

Average Wages Among Employed Clients Who Completed Supported Employment Services:
Male DDD Clients Compared with Female DDD Clients

Cohorts 1 & 2 (N=387)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Male	$723	$549	$538	$529	$519	$486	$477	$495	$504	$530	$527	$535
Female	$547	$430	$394	$396	$396	$401	$426	$431	$433	$420	$422	$414
Male Employed in Cohorts 1&2	221	220	217	211	207	199	194	189	182	174	170	167
Females Employed in Cohorts 1&2	166	161	156	151	144	140	132	130	126	124	121	118
Cohort 1 (N=191)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Male	$569	$568	$565	$557	$548	$555	$559	$566	$571	$574	$606	$584
Female	$424	$443	$460	$477	$502	$473	$484	$497	$476	$481	$456	$536
Males Employed in Cohort 1	89	89	87	85	84	86	87	86	84	83	81	78
Females Employed in Cohort 1	56	51	51	52	53	51	51	51	53	53	55	51

Average Wages Among Employed Clients Who Completed Supported Employment Services:
Male MHD Clients Compared with Female MHD Clients

Cohorts 1 & 2 (N=189)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Males	$582	$431	$404	$412	$427	$451	$453	$449	$440	$428	$430	$456
Females	$523	$404	$384	$388	$413	$477	$480	$473	$437	$448	$440	$451
Males Employed in Cohorts 1& 2	126	124	120	116	112	110	107	104	102	102	100	97
Females Employed in Cohorts 1&2	63	62	60	54	51	45	39	39	37	37	34	33
Cohort 1 (N=82)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Males	$423	$434	$420	$431	$443	$484	$491	$458	$471	$460	$508	$525
Females	$446	$372	$414	$452	$499	$456	$535	$492	$489	$471	$568	$720
Males Employed in Cohort 1	43	43	41	41	39	37	35	37	36	37	33	32
Females Employed in Cohort 1	14	13	14	14	12	12	11	12	11	11	9	11

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Percent Employed by Race Ethnicity

Percent Employed Among Clients Who Completed Supported Employment Services:
White and Non-Hispanic DDD Clients Compared with Non-White, Hispanic DDD Clients

*Cohorts 1 & 2 (N=379)**												
Month	1	2	3	4	5	6	7	8	9	10	11	12
White Non-Hispanic (n=338)	100%	99%	97%	93%	91%	87%	84%	82%	79%	77%	75%	74%
Non-White and Hispanic (n=41)	100%	98%	93%	93%	90%	93%	90%	88%	85%	80%	76%	71%
*Cohort 1 (N-190)**												
Month	13	14	15	16	17	18	19	20	21	22	23	24
White Non-Hispanic (n=163)	75%	74%	73%	72%	72%	72%	72%	72%	72%	71%	72%	68%
Non-White and Hispanic (n=27)	78%	67%	67%	67%	70%	70%	70%	70%	70%	70%	67%	63%

** 1 non-respondent to the race/ethnicity questions in Cohort 1, and 7 non-respondents in Cohort 2*

Percent Employed Among Clients Who Completed Supported Employment Services:
White and Non-Hispanic MHD Clients Compared with Non-White, Hispanic MHD Clients

Cohorts 1 & 2 (N=183)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
White, Non-Hispanic (n=151)	100%	98%	94%	88%	85%	82%	77%	75%	73%	75%	72%	70%
Non-White, Hispanic (n=32)	100%	100%	100%	97%	91%	81%	75%	75%	75%	66%	63%	63%
Cohort 1 (N=82)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
White, Non-Hispanic (n=72)	71%	69%	68%	68%	64%	61%	57%	61%	58%	60%	54%	56%
Non-White, Hispanic (n=10)	52%	52%	52%	52%	50%	50%	50%	50%	50%	50%	30%	30%

*** 6 non-respondents in Cohort 2*

Average Wages by Race/Ethnicity

Average Wages Among Employed Clients Who Completed Supported Employment Services:
White, Non-Hispanic DDD Clients Compared with Non-White, Hispanic DDD Clients

*Cohorts 1 & 2 (N=379)**												
Month	1	2	3	4	5	6	7	8	9	10	11	12
White, Non-Hispanic	$654	$499	$475	$471	$465	$447	$457	$469	$478	$485	$481	$482
Non-White, Hispanic	$578	$510	$511	$504	$509	$476	$429	$452	$443	$467	$485	$494
White, Non-Hispanic Employed in Cohorts 1 & 2	338	333	327	316	306	294	283	277	267	259	254	250
Non-White, Hispanic Employed in Cohorts 1 & 2	41	40	38	38	37	38	37	36	35	33	31	29
*Cohort 1 (N=190) **												
Month	13	14	15	16	17	18	19	20	21	22	23	24
White, Non-Hispanic	$503	$515	$517	$521	$520	$513	$520	$531	$527	$530	$538	$573
Non-White, Hispanic	$542	$544	$557	$536	$561	$562	$572	$569	$554	$556	$560	$482
White, Non-Hispanic Employed in Cohort 1	123	121	119	118	117	117	118	117	117	116	117	111
Non-White, Hispanic Employed in Cohort 1	21	18	18	18	19	19	19	19	19	19	18	17

** 1 non-respondent to the race/ethnicity questions in Cohort 1 and 7 non-respondents in Cohort 2.*

Average Wages Among Employed Clients Who Completed Supported Employment Services:
White, Non-Hispanic MHD Clients Compared with Non-White, Hispanic MHD Clients

*Cohorts 1 & 2 (N=183)**												
Month	1	2	3	4	5	6	7	8	9	10	11	12
White, Non-Hispanic	$563	$416	$392	$396	$417	$438	$444	$441	$431	$419	$415	$438
Non-White, Hispanic	$561	$442	$424	$442	$463	$556	$542	$537	$493	$530	$562	$583
White, Non-Hispanic Employed in Cohorts 1 & 2	151	148	142	133	128	124	117	114	110	113	109	105
Non-White, Hispanic Employed in Cohorts 1 $ 2	32	32	32	31	29	26	24	24	24	21	20	20
Cohort 1 (N=82)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
White, Non-Hispanic	$408	$410	$411	$432	$448	$476	$503	$473	$469	$455	$496	$550
Non-White, Hispanic	$600	$500	$476	$476	$532	$488	$488	$409	$525	$525	$840	$916
White, Non-Hispanic Employed in Cohort 1	51	50	49	49	46	44	41	44	42	43	39	40
Non-White, Hispanic Employed in Cohort 1	6	6	6	6	5	5	5	5	5	5	3	3

***6 non respondents in Cohort 2*

Percent Employed by Age

Percent Employed Among Clients Who Completed Supported Employment Services:
Younger DDD Clients Compared with Older DDD Clients

Cohorts 1 & 2 (N=387)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Younger (n=206)	100%	98%	96%	92%	89%	87%	83%	82%	78%	75%	73%	74%
Older (n=181)	100%	99%	97%	95%	92%	88%	85%	83%	81%	79%	77%	73%
Cohort 1 (N=191)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Younger (n=98)	77%	73%	70%	68%	68%	66%	66%	67%	67%	68%	69%	67%
Older (n=93)	75%	73%	74%	75%	75%	77%	78%	76%	76%	74%	73%	68%

Percent Employed Among Clients Who Completed Supported Employment Services:
Younger MHD Clients Compared with Older MHD Clients

Cohorts 1 & 2 (N=189)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Younger (n=102)	100%	99%	96%	92%	88%	84%	81%	78%	74%	71%	67%	64%
Older (n=86)	100%	98%	94%	87%	84%	79%	73%	73%	73%	77%	76%	74%
Cohort 1 (N=82)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Younger (n=45)	60%	50%	62%	62%	50%	58%	56%	50%	56%	50%	44%	47%
Older (n=37)	81%	42%	45%	45%	65%	62%	57%	59%	59%	62%	59%	59%

Average Wages by Age

Average Wages Among Employed Clients Who Completed Supported Employment Services:
Younger DDD Clients Compared with Older DDD Clients

Cohorts 1 & 2 (N=387)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Younger	$631	$479	$448	$448	$437	$428	$436	$442	$460	$450	$462	$451
Older	$666	$521	$512	$502	$503	$476	$478	$499	$491	$522	$506	$524
Younger Employed in Cohorts 1 & 2	206	201	197	190	184	179	172	168	161	155	151	152
Older Employed in Cohorts 1 & 2	181	180	176	172	167	160	154	151	147	143	140	133
Cohort 1 (N=191)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Younger	$450	$461	$487	$509	$517	$495	$509	$510	$513	$522	$533	$605
Older	$580	$588	$566	$544	$543	$552	$552	$569	$554	$553	$558	$524
Younger Employed in Cohort 1	75	72	69	67	67	65	65	66	66	67	68	66
Older Employed in Cohort 1	70	68	69	70	70	72	73	71	71	69	68	63

Average Wages Among Employed Clients Who Completed Supported Employment Services:
Younger MHD Clients Compared with Older MHD Clients

Cohorts 1 & 2 (N=189)												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Younger	$598	$413	$393	$393	$419	$442	$440	$437	$432	$458	$459	$469
Older	$519	$433	$403	$419	$427	$478	$487	$478	$447	$406	$404	$439
Younger Employed in Cohorts 1 & 2	103	102	99	95	91	87	83	80	76	73	69	66
Older Employed in Cohorts 1 & 2	86	84	81	75	72	68	63	63	63	66	65	64
Cohort 1 (N=82)												
Month	13	14	15	16	17	18	19	20	21	22	23	24
Younger	$466	$477	$485	$500	$531	$531	$533	$449	$456	$451	$544	$618
Older	$394	$366	$349	$371	$372	$416	$464	$488	$497	$475	$499	$534
Younger Employed in Cohorts 1 & 2	27	27	28	28	27	26	25	27	25	25	20	21
Older Employed in Cohorts 1 & 2	30	29	27	27	24	23	21	22	22	23	22	22

Percent Employed by Proviso Status

Percent Employed Among Clients Who Completed Supported Employment Services:
Proviso DDD Clients Compared with Non-Proviso DDD Clients

Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Proviso (Cohort B n=48)	100%	98%	96%	96%	94%	92%	81%	81%	79%	75%	69%	63%
Non-Proviso (Cohort A n=58)	100%	100%	95%	93%	88%	91%	90%	88%	88%	83%	78%	71%

Percent Employed Among Clients Who Completed Supported Employment Services:
Proviso MHD Clients Compared with Non-Proviso MHD Clients

Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Proviso (Cohort B n=54)	100%	100%	94%	89%	81%	78%	72%	72%	64%	69%	65%	65%
Non-Proviso (Cohort A n=25)	100%	92%	92%	84%	88%	88%	88%	84%	80%	76%	72%	64%

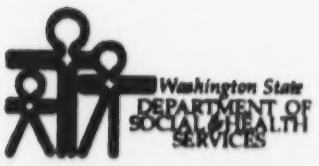
Average Wages by Proviso Status

Average Wages Among Employed Clients Who Completed Supported Employment Services:
Proviso DDD Clients Compared with Non-Proviso DDD Clients

Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Proviso (Cohort B n= 48)	$507	$433	$411	$379	$396	$398	$403	$390	$390	$391	$360	$369
Non-Proviso (Cohort A n=58)	$551	$401	$411	$430	$411	$398	$416	$429	$417	$404	$395	$412
Proviso Clients Employed	48	47	46	46	45	44	39	39	38	36	33	30
Non-Proviso Clients Employed	58	58	55	54	51	53	52	51	51	48	45	41

Average Wages Among Employed Clients Who Completed Supported Employment Services:
Proviso MHD Clients Compared with Non--Proviso MHD Clients

Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Proviso	$469	$378	$329	$348	$369	$391	$359	$340	$332	$365	$372	$371
Non-Proviso	$408	$311	$273	$260	$271	$289	$289	$273	$250	$259	$245	$280
Proviso Clients Employed	54	54	51	48	44	42	39	39	37	37	35	35
Non-Proviso Clients Employed	25	23	23	21	22	22	22	21	20	19	18	16



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